

THE IMPACT OF LIFE SCIENCE IN NORTHERN CALIFORNIA

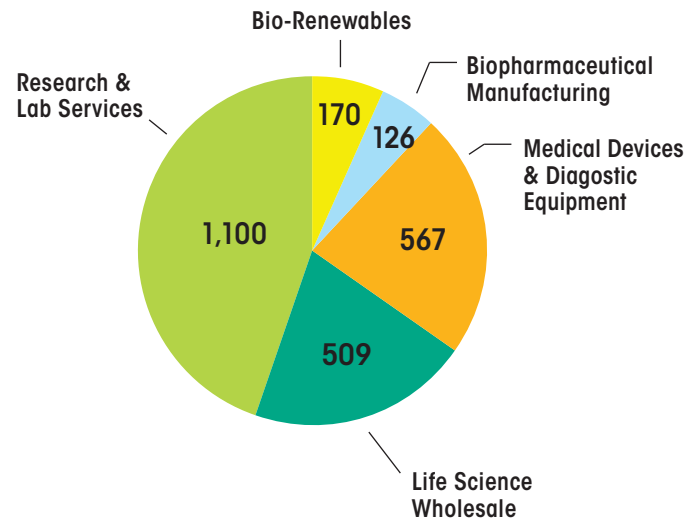
Northern California was home to over 96,000 life sciences jobs in 2016, an increase of more than 12,000 (15%) in the past five years. The 2016 average wage in the life science sector was \$156,000, substantially higher than other California regions, the closest of which stands at \$117,253. Life science industry employment is also expected to increase in Northern California at a faster rate than state averages, gaining about 3% to 99,546 jobs by 2021.

Research and Lab Services are expected to grow the most, adding 3,182 jobs in the next five years, an increase of 7%

ANNUAL ECONOMIC IMPACT

DESCRIPTION	IMPACT
Economic Activity	\$113.8 billion
Gross Area Product	\$68.6 billion
Attributable Jobs	302,557
Labor Income	\$34.1 billion

BREAKDOWN OF LIFE SCIENCE COMPANY SECTORS




The industry generates about \$114 billion in annual economic activity.

There are 2,472 life science establishments in Northern California.

SUBSECTOR


EMPLOYMENT IN 2016

 Bio-Renewables	2,794
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Includes biofuels, specialty enzymes and chemicals, algae research, and key elements of agriculture.

 Biopharmaceutical Manufacturing	21,508
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The production of medicines, botanicals, pharmaceuticals, in-vitro diagnostic substances, and biological products.

 Medical Devices & Diagnostic Equipment	20,334
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Laboratory equipment and supplies, optical instruments, electromedical apparatus, surgical and medical instruments, and dental equipment.

 Life Science Wholesale	7,321
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Wholesaling and distributing medical equipment and supplies and the wholesaling of drugs and related products.

 Research & Lab Services	44,433
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Research and development in biotech, medical laboratories, and industries representing testing laboratories, as well as higher education.

NIH Funding

Private and public institutions, including universities, labs, and companies in Northern California received \$1.44 billion—slightly half of California's total \$3.6 billion of NIH funding in 2016—a tremendous source of support for industry innovation and cutting-edge research.

Northern California received \$1.44 Billion in Research Funding from National Institutes of Health (NIH) for FY2016.

Economic Impact data prepared by TClower & Associates



AVERAGE WAGES ACROSS SUBSECTORS BY COUNTY

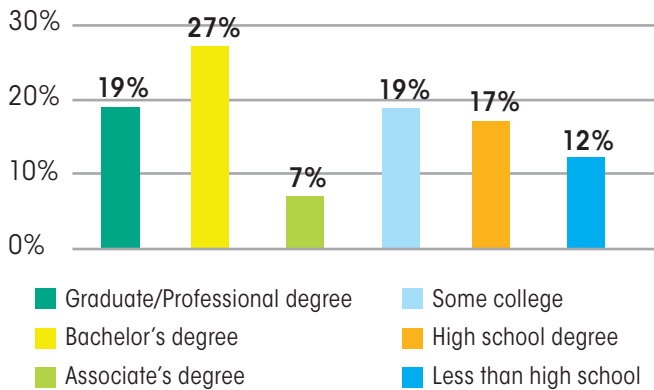


FOREIGN EXPORTS OF LIFE SCIENCE PRODUCTS

SUBSECTOR	EXPORTS
Bio-Renewables	\$166 million
Biopharmaceutical Manufacturing	\$4.9 billion
Medical Devices & Diagnostic Equipment	\$3.7 billion
Life Science Wholesale	\$329 million
Research & Lab Services	\$853 million
TOTAL LIFE SCIENCE INDUSTRY	\$9.9 billion

Life science exports in Northern California totaled more than \$9.9 billion in 2015, \$2.5 billion less than Southern California and was driven by more than \$4.9 billion in Biopharmaceutical Manufacturing shipments. Life Science Wholesale had the lowest export amount, at \$329 million.

EDUCATIONAL ATTAINMENT



Northern California has a much more highly educated workforce than the nation as a whole. While only 12% have a graduate or professional degree and 19% have a bachelor's degree nationally, in Northern California, 19% have a graduate or professional degree and 27% have a bachelor degree. In sum, more than 45% of Northern California adults possess at least a bachelor's degree, which allows the region to compete very effectively for key life science industry investments.

The most competitive industry subsectors in Northern California are Biopharmaceuticals; Medical Devices & Diagnostic Equipment; and Research & Lab Services.

About Biocom

Biocom is the largest, most experienced leader and advocate for California's life science sector. We work on behalf of more than 900 members to drive public policy, build an enviable network of industry leaders, create access to capital, introduce cutting-edge STEM education programs, and create robust value-driven purchasing programs.

Founded in 1995 in San Diego, Biocom provides the strongest public voice to research institutions and companies that fuel the local and state-wide economy. Our goal is simple: to help our members produce novel solutions that improve the human condition. In addition to its San Diego headquarters, Biocom has continuous staff presence in Los Angeles, San Francisco, Sacramento, Washington, D.C. and Tokyo. Our broad membership benefits apply to biotechnology, pharmaceutical, medical device, genomics and diagnostics companies of all sizes, as well as to research universities and institutes, clinical research organizations, investors and service providers.

This is a condensed summary of the Economic Impact Report produced by Biocom and TClower & Associates. For the full report, please visit our website: www.biocom.org